



January 20, 2007

**Cruise Report  
R/V “Oceania”, AREX 2006**

Ship: R/V “Oceania”

Cruise: AREX 2006

Dates: 08.06.2006 – 19.07.2006

Port Calls: Gdansk (Poland) – Longyearbyen (Spitsbergen)

Number of Scientist: 14

Chief Scientist: Waldemar Walczowski, Ph.D.

Principal Project: DAMOCLES - WP3

Research Area: Greenland Sea

## **Damocles - WP3. Oceans: Task 3.1 Input Function, Task 3.2 Shelf/Basin Exchange**

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### **1. Observations 2006**

AREX 2006 cruise of the R/V Oceania was performed in the period of June 08 2006 – July 19 2006. CTD (conductivity, temperature, depth) profiles along 12 sections were done (Fig.1, Tab.1). Sections are perpendicular to the general direction of the Atlantic Water flow. The AW domain in the Greenland Sea is situated between the Barents Sea slope and underwater ridges system – Mohns Ridge and Knipovich Ridge. Due to convergence of the isobaths in the northern part, AW domain forms a wedge, wide in the southern part and narrow in the northern end. Specific bottom topography significantly influences the currents pattern and structure. Coverage in the southern part of the investigated area is spare in comparison to the northern one. This causes less accurate horizontal distribution of properties in the region south of the Bear Island. As in the previous years, our main effort was concentrated in the northern part of Atlantic Domain where processes controlling the AW inflow into Arctic Ocean through the Fram Strait and the westward recirculation occur.

For CTD measurements the Seabird SBI9/11plus probe was used. The probe was serviced before the cruise. Temperature and conductivity sensors were calibrated by the Sea-Bird Electronics service. Water samples collected by means of the rosette water sampler SBE32 were analysed at IOPAS laboratory with the Guildline Autosal 8400A.

Currents measurements by means of the lowered Acoustic Doppler Current Profiler (LADCP) were performed at the CTD stations. The self-recording 300 kHz RDI device was used to profile entire water column during the standard CTD casts.

During the whole cruise continuous currents measurements by the shipmounted ADCP, RDI 150 kHz were conducted.

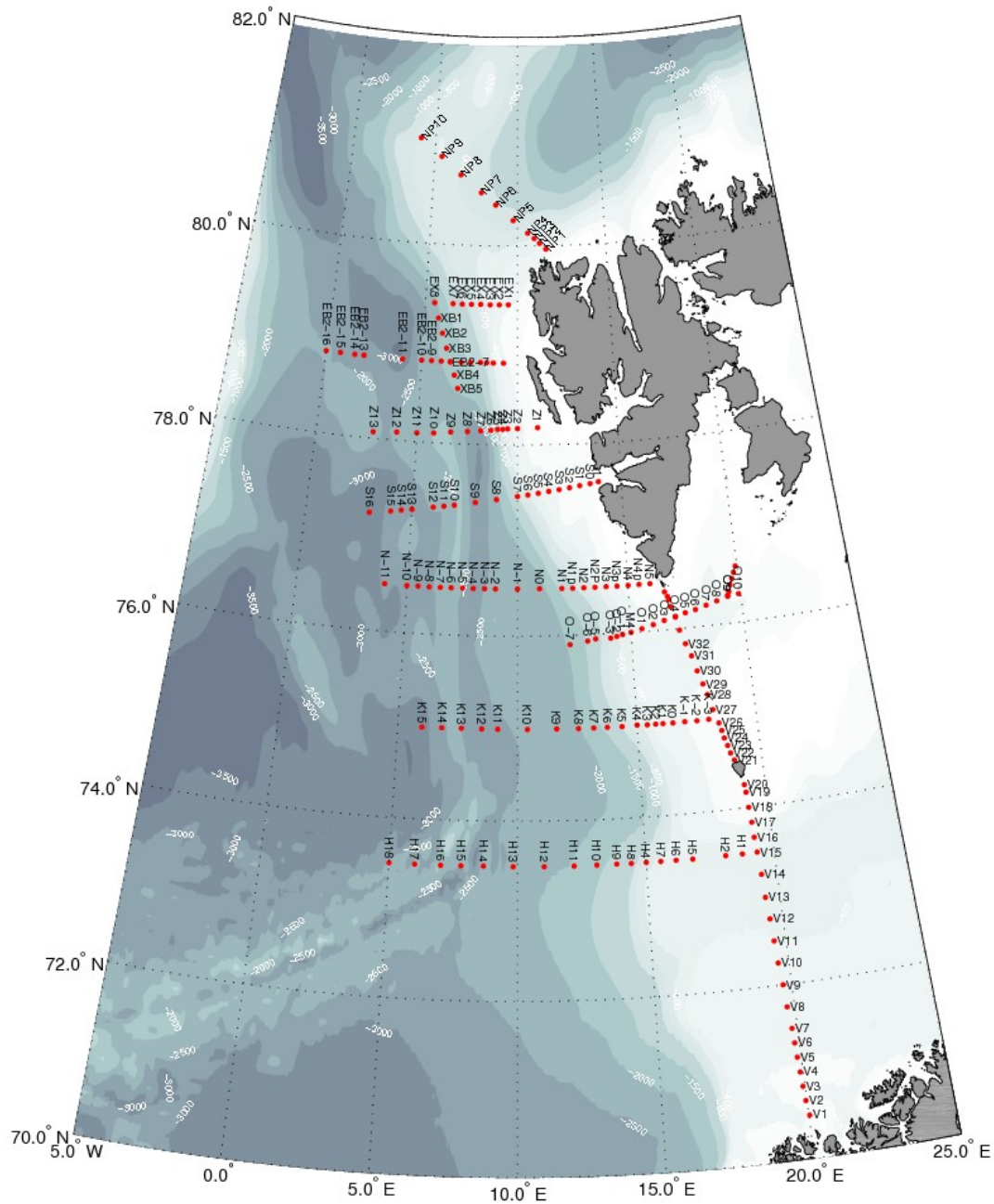


Figure 1: Measurements performed during Arex 2006 experiment.

## 2. Some preliminary results

As in the earlier years, 2006 cruise results confirmed that there are two northward flowing branches of Atlantic Water in the Greenland Sea. The main branch of the West Spitsbergen Current flows along the Barents Sea continental slope and Spitsbergen shelf break. The second, colder and less saline branch continues along the Mohns and Knipovich Ridges as a jet stream of the Arctic Front. Force which is responsible for convergence of both branches of AW west of the Spitsbergen coast is bottom topography. Furthermore, only a part of northward flowing AW enters the Arctic Ocean, mainly along the Spitsbergen slope; AW carried by the western branch generally recirculates westward as Return Atlantic Current.

AW enters into the Greenland Sea as a wide flow of warm and more saline water separated from the Norwegian coast by the less saline Norwegian Coastal Current. To the west, the Arctic Front located over the Mohns Ridge separates AW from colder and less saline Arctic Waters. Considerable part of AW flowing along the Norwegian coast proceeds eastward into the Barents Sea, the rest continues northward as two separated branches. One branch is related to the Barents Sea slope. Jet streams of the Arctic Front form the second branch of AW. There are some differences between salinity and temperature of the eastern and western branch; AW carried by the eastern flow is much warmer and more saline than the western one. Distance between the branches in the southern part of WSC is about 150 km and in the northern part - only 30 km. In central and northern part of the WSC recirculation of AW occurs. Only part of AW, which flows along the shelf break, continues northward through the Fram Strait into the Arctic Ocean. The ice edge in the Fram Strait was shifted northward.

Measurements performed by means of the LADCP provide very interesting material. As in the earlier years we have obtained relative high-resolution sections of currents measured together with CTD profiles, from the surface to the bottom. Measurements provide valuable information about the flow structure. The measured flow structure (Fig. 4a) is close to obtained from the baroclinic calculations (Fig. 4b). These data – mostly the barotropic component of currents measured in reference to the bottom, coupled with the ship-mounted ADCP output and baroclinic calculations allow to calculate total fluxes more precisely.

Figure 5 presents the distribution of temperature and baroclinic currents at the depth of 100 m (calculated for the reference level of 1000 m) during summer 2006. To reduce effect of non-uniform data spacing, temperature and HD fields were smoothed and filtered. Finally, the picture of general currents pattern was obtained, rather than a synoptic snapshot. Same as in 2004 and 2005, westward recirculation of AW was limited in 2006. Northward transport of AW by the branch related to the Spitsbergen slope was relatively high. To sum up, the AW temperature in 2006 was very high and its range was shifted far away to the north, in comparison to situation in 2005 (Fig 6). Because great area was free from sea ice on the north, CTD measurements were performed above 81°N.

No	Station	Latitude	Longitude	Date, Time	Depth	File
Section V1						
1	V1	70° 29.85' N	020° 01.80' E	20-Jun-2006 10:01:57	130	ar06_001
2	V2	70° 39.99' N	019° 57.84' E	20-Jun-2006 11:51:45	155	ar06_002
3	V3	70° 50.00' N	019° 55.60' E	20-Jun-2006 13:43:26	180	ar06_003
4	V4	70° 59.93' N	019° 53.96' E	20-Jun-2006 15:33:00	185	ar06_004
5	V5	71° 10.04' N	019° 51.96' E	20-Jun-2006 17:38:22	205	ar06_005
6	V6	71° 20.01' N	019° 50.30' E	20-Jun-2006 18:33:54	210	ar06_006
7	V7	71° 29.97' N	019° 48.31' E	20-Jun-2006 20:22:46	240	ar06_007
8	V8	71° 44.88' N	019° 43.90' E	20-Jun-2006 23:03:30	265	ar06_008
9	V9	71° 59.94' N	019° 40.94' E	21-Jun-2006 01:57:19	310	ar06_009
10	V10	72° 14.95' N	019° 36.76' E	21-Jun-2006 05:08:16	330	ar06_010
11	V11	72° 30.01' N	019° 33.69' E	21-Jun-2006 07:48:23	390	ar06_011
12	V12	72° 44.99' N	019° 30.79' E	21-Jun-2006 10:20:56	400	ar06_012
13	V13	72° 59.53' N	019° 26.21' E	21-Jun-2006 13:49:27	410	ar06_013
14	V14	73° 15.11' N	019° 23.82' E	21-Jun-2006 17:46:38	455	ar06_014
15	V20	74° 15.08' N	019° 09.35' E	23-Jun-2006 09:38:01	55	ar06_015
16	V19	74° 10.08' N	019° 11.07' E	23-Jun-2006 10:45:32	65	ar06_016
17	V18	74° 00.16' N	019° 13.41' E	23-Jun-2006 13:04:42	135	ar06_017
18	V17	73° 50.05' N	019° 16.00' E	23-Jun-2006 15:10:56	230	ar06_018
19	V16	73° 40.08' N	019° 17.95' E	23-Jun-2006 17:30:44	345	ar06_019
20	V15	73° 30.09' N	019° 20.38' E	23-Jun-2006 20:03:31	480	ar06_020
Section H						
21	H1	73° 30.05' N	018° 45.30' E	23-Jun-2006 23:51:00	435	ar06_021
22	H2	73° 30.04' N	018° 06.55' E	24-Jun-2006 04:15:03	405	ar06_022
23	H5	73° 30.03' N	016° 49.36' E	24-Jun-2006 12:56:35	445	ar06_023
24	H6	73° 30.05' N	016° 10.41' E	24-Jun-2006 16:52:29	460	ar06_024
25	H7	73° 30.10' N	015° 34.42' E	24-Jun-2006 20:19:57	480	ar06_025
26	H4	73° 30.06' N	015° 00.27' E	24-Jun-2006 23:20:43	700	ar06_026
27	H8	73° 30.02' N	014° 25.47' E	25-Jun-2006 02:56:57	1025	ar06_027
28	H9	73° 30.20' N	013° 51.46' E	25-Jun-2006 06:49:24	1290	ar06_028
29	H10	73° 30.08' N	013° 05.40' E	25-Jun-2006 13:38:06	1590	ar06_029
30	H11	73° 30.01' N	012° 12.23' E	25-Jun-2006 20:17:24	1825	ar06_030
31	H12	73° 29.95' N	011° 01.92' E	26-Jun-2006 02:24:39	2085	ar06_031
32	H13	73° 30.04' N	009° 49.97' E	26-Jun-2006 08:44:44	2330	ar06_032
33	H14	73° 30.38' N	008° 40.46' E	26-Jun-2006 15:05:10	2530	ar06_033
34	H15	73° 30.15' N	007° 48.03' E	26-Jun-2006 19:55:39	2845	ar06_034
35	H16	73° 30.06' N	007° 00.18' E	27-Jun-2006 00:49:33	2380	ar06_035
36	H17	73° 30.02' N	006° 00.07' E	27-Jun-2006 05:45:21	2065	ar06_036
37	H18	73° 29.93' N	005° 00.11' E	27-Jun-2006 10:29:19	2605	ar06_037
Section K						

No	Station	Latitude	Longitude	Date, Time	Depth	File
38	K15	74° 59.96' N	006° 00.24' E	28-Jun-2006 01:22:40	2885	ar06_038
39	K14	75° 00.01' N	006° 50.08' E	28-Jun-2006 05:12:30	2050	ar06_039
40	K13	75° 00.16' N	007° 39.15' E	28-Jun-2006 08:27:45	2150	ar06_040
41	K12	75° 00.01' N	008° 30.21' E	28-Jun-2006 11:39:57	2890	ar06_041
42	K11	75° 00.04' N	009° 10.42' E	28-Jun-2006 15:14:48	2625	ar06_042
43	K10	75° 00.01' N	010° 25.11' E	28-Jun-2006 19:44:15	2535	ar06_043
44	K9	74° 59.96' N	011° 38.16' E	29-Jun-2006 00:01:01	2390	ar06_044
45	K8	74° 59.97' N	012° 32.99' E	29-Jun-2006 03:39:22	2175	ar06_045
46	K7	74° 59.97' N	013° 11.17' E	29-Jun-2006 06:46:07	2005	ar06_046
47	K6	74° 59.98' N	013° 44.97' E	29-Jun-2006 09:28:28	1830	ar06_047
48	K5	74° 59.93' N	014° 22.03' E	29-Jun-2006 12:11:09	1550	ar06_048
49	K4	75° 00.24' N	014° 59.70' E	29-Jun-2006 15:02:00	1115	ar06_049
50	K3	75° 00.06' N	015° 25.37' E	29-Jun-2006 18:15:29	820	ar06_050
51	K2	75° 00.00' N	015° 46.87' E	29-Jun-2006 19:51:08	350	ar06_051
52	K1	74° 59.96' N	016° 04.82' E	29-Jun-2006 21:00:03	215	ar06_052
53	K0	74° 59.99' N	016° 29.96' E	29-Jun-2006 22:18:21	235	ar06_053
54	K-1	75° 00.05' N	016° 59.86' E	29-Jun-2006 23:43:25	125	ar06_054
55	K-2	75° 00.03' N	017° 29.97' E	30-Jun-2006 01:09:20	120	ar06_055
56	K-3	75° 00.04' N	018° 00.12' E	30-Jun-2006 02:31:05	155	ar06_056
Section V2						
57	V21	74° 31.96' N	018° 52.58' E	30-Jun-2006 06:58:17	20	ar06_057
58	V22	74° 36.88' N	018° 44.71' E	30-Jun-2006 08:00:22	65	ar06_058
59	V23	74° 41.93' N	018° 39.83' E	30-Jun-2006 09:02:15	95	ar06_059
60	V24	74° 46.96' N	018° 33.84' E	30-Jun-2006 10:05:00	230	ar06_060
61	V25	74° 52.01' N	018° 29.76' E	30-Jun-2006 11:10:01	205	ar06_061
62	V26	74° 57.08' N	018° 24.38' E	30-Jun-2006 12:10:24	65	ar06_062
63	V27	75° 06.06' N	018° 12.94' E	30-Jun-2006 13:56:39	70	ar06_063
64	V28	75° 16.17' N	018° 03.42' E	30-Jun-2006 15:54:41	60	ar06_064
65	V29	75° 23.15' N	017° 55.09' E	30-Jun-2006 17:01:42	105	ar06_065
66	V30	75° 32.00' N	017° 43.21' E	30-Jun-2006 18:28:32	130	ar06_066
67	V31	75° 41.97' N	017° 32.89' E	30-Jun-2006 20:10:58	210	ar06_067
68	V32	75° 50.06' N	017° 20.17' E	30-Jun-2006 21:47:20	290	ar06_068
69	V33	75° 59.06' N	017° 08.07' E	30-Jun-2006 23:35:23	320	ar06_069
70	V34	76° 07.55' N	017° 00.01' E	01-Jul-2006 01:11:50	285	ar06_070
71	V35	76° 14.50' N	016° 49.69' E	01-Jul-2006 02:37:30	215	ar06_071
72	V36	76° 19.07' N	016° 46.92' E	01-Jul-2006 03:33:30	105	ar06_072
73	V37	76° 21.15' N	016° 43.90' E	01-Jul-2006 04:09:01	55	ar06_073
74	V38	76° 24.16' N	016° 36.92' E	01-Jul-2006 04:48:48	30	ar06_074
Section O						
75	O5	76° 09.70' N	017° 27.74' E	01-Jul-2006 08:35:08	310	ar06_075

No	Station	Latitude	Longitude	Date, Time	Depth	File
76	O6	76° 11.06' N	017° 55.13' E	01-Jul-2006 10:24:25	275	ar06_076
77	O7	76° 13.07' N	018° 24.93' E	01-Jul-2006 12:14:58	250	ar06_077
78	O8	76° 15.07' N	018° 54.67' E	01-Jul-2006 14:18:49	265	ar06_078
79	O9	76° 17.27' N	019° 24.98' E	01-Jul-2006 16:28:21	255	ar06_079
80	O9	76° 17.81' N	019° 25.16' E	01-Jul-2006 17:03:59	255	ar06_080
81	O10	76° 18.03' N	019° 54.96' E	01-Jul-2006 19:06:33	235	ar06_081
82	O9_1	76° 20.14' N	019° 29.64' E	01-Jul-2006 20:30:21	265	ar06_082
83	O9_2	76° 24.23' N	019° 35.21' E	01-Jul-2006 21:39:37	270	ar06_083
84	O9_3	76° 27.94' N	019° 41.78' E	01-Jul-2006 22:43:36	240	ar06_084
85	O9_4	76° 31.77' N	019° 48.26' E	01-Jul-2006 23:46:35	220	ar06_085
86	O9_5	76° 35.61' N	019° 55.10' E	02-Jul-2006 00:51:15	195	ar06_086
87	O4	76° 08.05' N	017° 00.49' E	02-Jul-2006 08:23:12	280	ar06_087
88	O3	76° 06.03' N	016° 30.17' E	02-Jul-2006 10:35:38	340	ar06_088
89	O2	76° 04.01' N	015° 59.98' E	02-Jul-2006 12:08:46	385	ar06_089
90	O1	76° 01.94' N	015° 29.62' E	02-Jul-2006 13:36:46	365	ar06_090
91	M4	76° 00.04' N	014° 59.72' E	02-Jul-2006 15:06:51	335	ar06_091
92	O-1	75° 59.06' N	014° 37.06' E	02-Jul-2006 17:12:33	320	ar06_092
93	O-2	75° 58.09' N	014° 21.82' E	02-Jul-2006 18:17:25	345	ar06_093
94	O-3	75° 57.09' N	014° 05.28' E	02-Jul-2006 19:30:48	605	ar06_094
95	O-5	75° 57.20' N	013° 25.78' E	02-Jul-2006 22:40:45	1170	ar06_096
96	O-6	75° 56.06' N	013° 04.59' E	03-Jul-2006 00:26:17	1400	ar06_097
97	O-7	75° 54.14' N	012° 18.23' E	03-Jul-2006 03:16:32	1800	ar06_098
Section N						
98	N5	76° 30.03' N	015° 59.92' E	06-Jul-2006 15:50:01	45	ar06_099
99	N4p	76° 30.11' N	015° 29.82' E	06-Jul-2006 17:04:14	125	ar06_100
100	N4	76° 30.00' N	015° 00.36' E	06-Jul-2006 18:21:13	155	ar06_101
101	N3p	76° 29.98' N	014° 29.89' E	06-Jul-2006 19:51:36	215	ar06_102
102	N3	76° 30.07' N	014° 00.28' E	06-Jul-2006 21:17:15	735	ar06_103
103	N2P	76° 30.00' N	013° 30.16' E	06-Jul-2006 23:07:07	1265	ar06_104
104	N2	76° 29.99' N	013° 00.14' E	07-Jul-2006 01:30:43	1530	ar06_105
105	N1p	76° 29.97' N	012° 29.89' E	07-Jul-2006 04:33:15	1750	ar06_106
106	N1	76° 30.02' N	012° 00.24' E	07-Jul-2006 07:26:58	1910	ar06_107
107	N0	76° 30.02' N	010° 59.70' E	07-Jul-2006 11:03:28	2120	ar06_108
108	N-1	76° 29.96' N	009° 59.71' E	07-Jul-2006 14:32:36	2275	ar06_109
109	N-2	76° 29.92' N	009° 00.36' E	07-Jul-2006 18:42:00	2290	ar06_110
110	N-3	76° 29.96' N	008° 30.41' E	07-Jul-2006 21:40:54	2295	ar06_111
111	N-4	76° 29.93' N	007° 59.93' E	08-Jul-2006 00:34:02	2060	ar06_112
112	N-5	76° 30.01' N	007° 29.88' E	08-Jul-2006 03:09:40	2530	ar06_113
113	N-6	76° 30.02' N	006° 59.82' E	08-Jul-2006 06:01:51	2885	ar06_114
114	N-7	76° 30.00' N	006° 30.38' E	08-Jul-2006 08:39:08	2490	ar06_115

No	Station	Latitude	Longitude	Date, Time	Depth	File
115	N-8	76° 29.97' N	005° 59.93' E	08-Jul-2006 10:52:51	2570	ar06_116
116	N-9	76° 29.93' N	005° 29.74' E	08-Jul-2006 13:09:01	2570	ar06_117
117	N-10	76° 29.91' N	004° 59.78' E	08-Jul-2006 15:17:27	2455	ar06_118
118	N-11	76° 30.04' N	003° 58.98' E	08-Jul-2006 18:14:08	2475	ar06_119
Section S						
119	S16	77° 14.02' N	002° 59.80' E	09-Jul-2006 00:39:46	2930	ar06_120
120	S15	77° 16.01' N	003° 59.93' E	09-Jul-2006 04:02:24	2600	ar06_121
121	S14	77° 16.97' N	004° 29.88' E	09-Jul-2006 06:31:52	2280	ar06_122
122	S13	77° 18.00' N	004° 59.95' E	09-Jul-2006 09:03:05	2395	ar06_123
123	S12	77° 20.06' N	006° 00.34' E	09-Jul-2006 12:23:00	2615	ar06_124
124	S11	77° 21.03' N	006° 30.23' E	09-Jul-2006 14:43:46	2135	ar06_125
125	S10	77° 21.97' N	007° 00.06' E	09-Jul-2006 16:43:06	2695	ar06_126
126	S9	77° 24.06' N	007° 59.90' E	09-Jul-2006 20:01:11	2320	ar06_127
127	S8	77° 26.06' N	009° 00.01' E	09-Jul-2006 23:06:03	2085	ar06_128
128	S7	77° 28.12' N	010° 00.08' E	10-Jul-2006 02:08:41	1595	ar06_129
129	S6	77° 29.05' N	010° 29.79' E	10-Jul-2006 04:19:15	1265	ar06_130
130	S5	77° 30.03' N	010° 59.73' E	10-Jul-2006 06:22:04	720	ar06_131
131	S4	77° 31.01' N	011° 29.74' E	10-Jul-2006 08:09:50	275	ar06_132
132	S3	77° 32.04' N	012° 00.29' E	10-Jul-2006 09:27:11	170	ar06_133
133	S2	77° 33.03' N	012° 30.08' E	10-Jul-2006 10:35:35	95	ar06_134
134	S1	77° 34.06' N	013° 00.02' E	10-Jul-2006 11:43:56	130	ar06_135
135	S0	77° 35.07' N	013° 29.90' E	10-Jul-2006 13:35:16	140	ar06_136
136	S-1	77° 36.02' N	013° 53.75' E	10-Jul-2006 14:44:08	125	ar06_137
Section Z						
137	Z1	78° 10.52' N	011° 00.04' E	12-Jul-2006 04:20:29	260	ar06_138
138	Z2	78° 09.99' N	009° 59.77' E	12-Jul-2006 06:23:41	265	ar06_139
139	Z3	78° 09.91' N	009° 30.25' E	12-Jul-2006 07:32:36	270	ar06_140
140	Z4	78° 09.61' N	009° 15.41' E	12-Jul-2006 08:15:59	665	ar06_141
141	Z5	78° 09.57' N	009° 00.06' E	12-Jul-2006 09:13:07	1105	ar06_142
142	Z6	78° 08.78' N	008° 40.30' E	12-Jul-2006 10:23:40	1575	ar06_143
143	Z7	78° 08.36' N	008° 09.94' E	12-Jul-2006 11:56:30	2220	ar06_144
144	Z8	78° 07.80' N	007° 29.85' E	12-Jul-2006 13:56:15	3405	ar06_145
145	Z9	78° 07.01' N	006° 40.40' E	12-Jul-2006 17:04:40	2340	ar06_146
146	Z10	78° 05.99' N	005° 50.04' E	12-Jul-2006 19:31:04	2515	ar06_147
147	Z11	78° 05.43' N	004° 59.78' E	12-Jul-2006 22:06:01	2480	ar06_148
148	Z12	78° 05.05' N	003° 59.66' E	13-Jul-2006 00:44:42	2900	ar06_149
149	Z13	78° 04.01' N	002° 49.64' E	13-Jul-2006 03:45:14	3060	ar06_150
Section EB2						
150	EB2-16	78° 50.03' N	000° 00.54' W	13-Jul-2006 12:32:38	2620	ar06_151
151	EB2-15	78° 50.04' N	000° 45.04' E	13-Jul-2006 15:50:24	2420	ar06_152



No	Station	Latitude	Longitude	Date, Time	Depth	File
152	EB2-14	78° 49.96' N	001° 29.86' E	13-Jul-2006 18:35:03	2515	ar06_153
153	EB2-13	78° 49.95' N	001° 58.61' E	13-Jul-2006 21:02:57	2535	ar06_154
154	EB2-11	78° 49.86' N	003° 59.53' E	14-Jul-2006 05:44:51	2310	ar06_155
155	EB2-10	78° 49.99' N	005° 00.06' E	14-Jul-2006 09:24:24	2680	ar06_156
156	EB2-9	78° 50.00' N	005° 30.90' E	14-Jul-2006 12:20:34	2595	ar06_157
157	EB2-8	78° 49.99' N	006° 00.88' E	14-Jul-2006 15:12:26	2450	ar06_158
158	EB2-7	78° 49.92' N	006° 29.79' E	14-Jul-2006 17:45:10	1975	ar06_159
159	EB2-6	78° 49.88' N	007° 04.00' E	14-Jul-2006 20:46:34	1390	ar06_160
160	EB2-5	78° 49.95' N	007° 32.90' E	14-Jul-2006 22:41:06	1135	ar06_161
161	EB2-4	78° 50.04' N	008° 04.04' E	15-Jul-2006 00:17:17	985	ar06_162
162	EB2-3	78° 50.10' N	008° 23.88' E	15-Jul-2006 01:25:50	710	ar06_163
163	EB2-2	78° 49.98' N	008° 44.31' E	15-Jul-2006 02:27:21	215	ar06_164
164	EB2-1	78° 49.96' N	009° 16.24' E	15-Jul-2006 03:33:50	200	ar06_165
Section NP						
165	NP1	79° 58.06' N	011° 36.22' E	15-Jul-2006 13:31:58	35	ar06_166
166	NP2	80° 01.55' N	011° 15.04' E	15-Jul-2006 14:35:21	200	ar06_167
167	NP3	80° 04.35' N	010° 57.21' E	15-Jul-2006 15:30:50	330	ar06_168
168	NP4	80° 07.56' N	010° 35.12' E	15-Jul-2006 16:37:05	475	ar06_169
169	NP5	80° 15.07' N	009° 44.97' E	15-Jul-2006 18:37:03	600	ar06_170
170	NP6	80° 23.98' N	008° 43.91' E	15-Jul-2006 20:52:19	770	ar06_171
171	NP7	80° 30.98' N	007° 52.34' E	15-Jul-2006 22:50:03	835	ar06_172
172	NP8	80° 41.01' N	006° 37.99' E	16-Jul-2006 01:26:55	790	ar06_173
173	NP9	80° 51.02' N	005° 25.03' E	16-Jul-2006 03:59:21	740	ar06_174
174	NP10	81° 01.00' N	004° 05.38' E	16-Jul-2006 06:35:58	730	ar06_175
Section EX						
175	EX1	79° 25.03' N	009° 30.38' E	17-Jul-2006 06:57:17	120	ar06_176
176	EX2	79° 24.94' N	009° 00.57' E	17-Jul-2006 08:01:11	125	ar06_177
177	EX3	79° 24.94' N	008° 30.67' E	17-Jul-2006 09:12:44	190	ar06_178
178	EX4	79° 25.02' N	008° 00.06' E	17-Jul-2006 10:29:01	405	ar06_179
179	EX5	79° 24.96' N	007° 29.99' E	17-Jul-2006 11:45:49	905	ar06_180
180	EX6	79° 24.93' N	007° 00.31' E	17-Jul-2006 14:08:03	1200	ar06_181
181	EX7	79° 24.98' N	006° 30.04' E	17-Jul-2006 15:53:07	1460	ar06_182
182	EX8	79° 24.95' N	005° 30.36' E	17-Jul-2006 18:34:09	2200	ar06_183
Section XB						
183	XB1	79° 15.91' N	005° 45.13' E	17-Jul-2006 20:57:25	1650	ar06_184
184	XB2	79° 06.93' N	006° 00.51' E	17-Jul-2006 23:08:36	1260	ar06_185
185	XB3	78° 57.97' N	006° 15.76' E	18-Jul-2006 01:29:03	1870	ar06_186
186	EB2-7	78° 49.94' N	006° 29.58' E	18-Jul-2006 03:59:21	1980	ar06_187
187	XB4	78° 41.97' N	006° 43.92' E	18-Jul-2006 06:30:44	1560	ar06_188
188	XB5	78° 33.89' N	006° 56.33' E	18-Jul-2006 08:52:19	2405	ar06_189

Table 1: CTD stations and some of their main parameters. There were 12 regular sections performed in 2006.

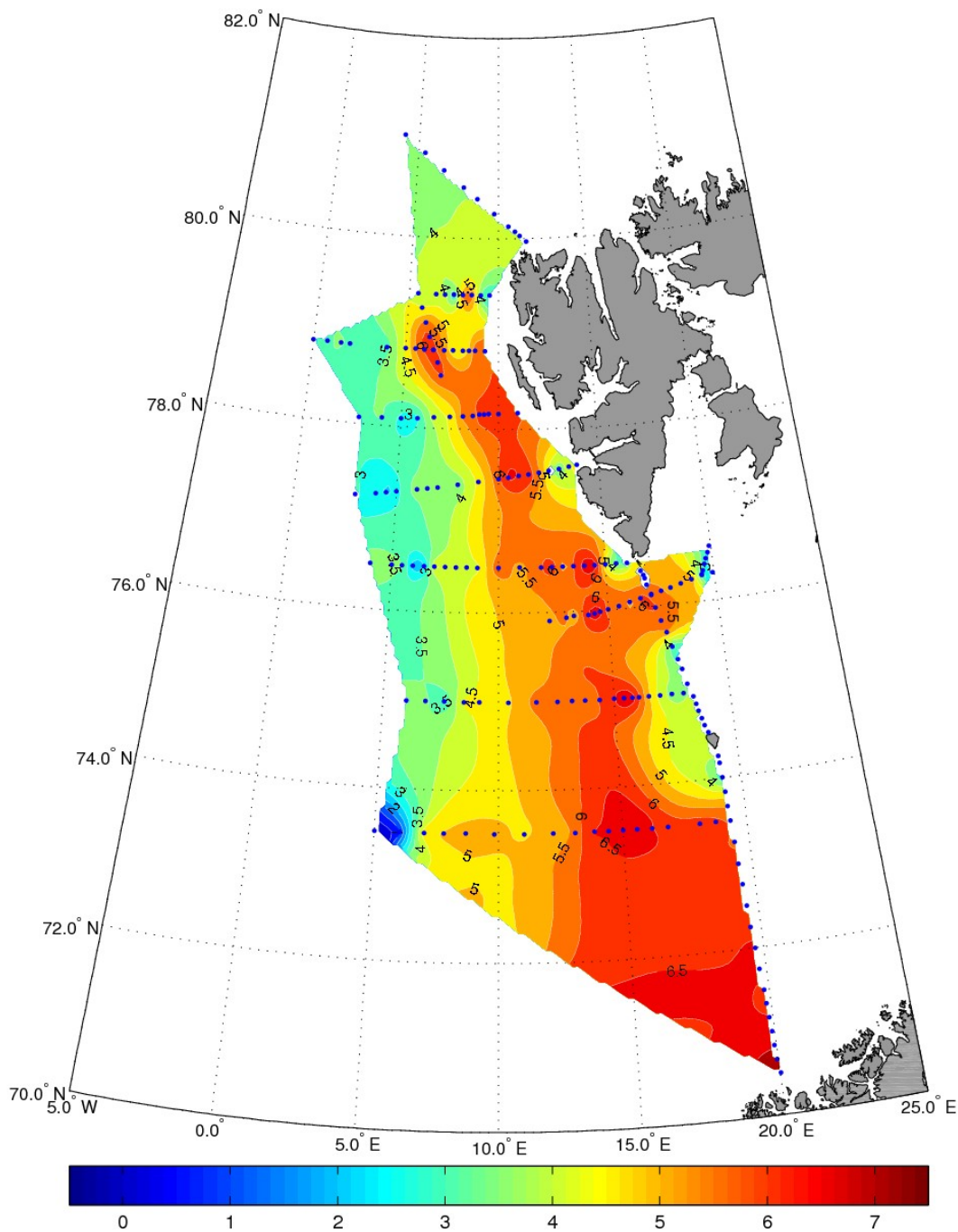


Figure 2: Potential temperature distribution [ $^{\circ}$ C] at the depth of 100 m in summer 2006.

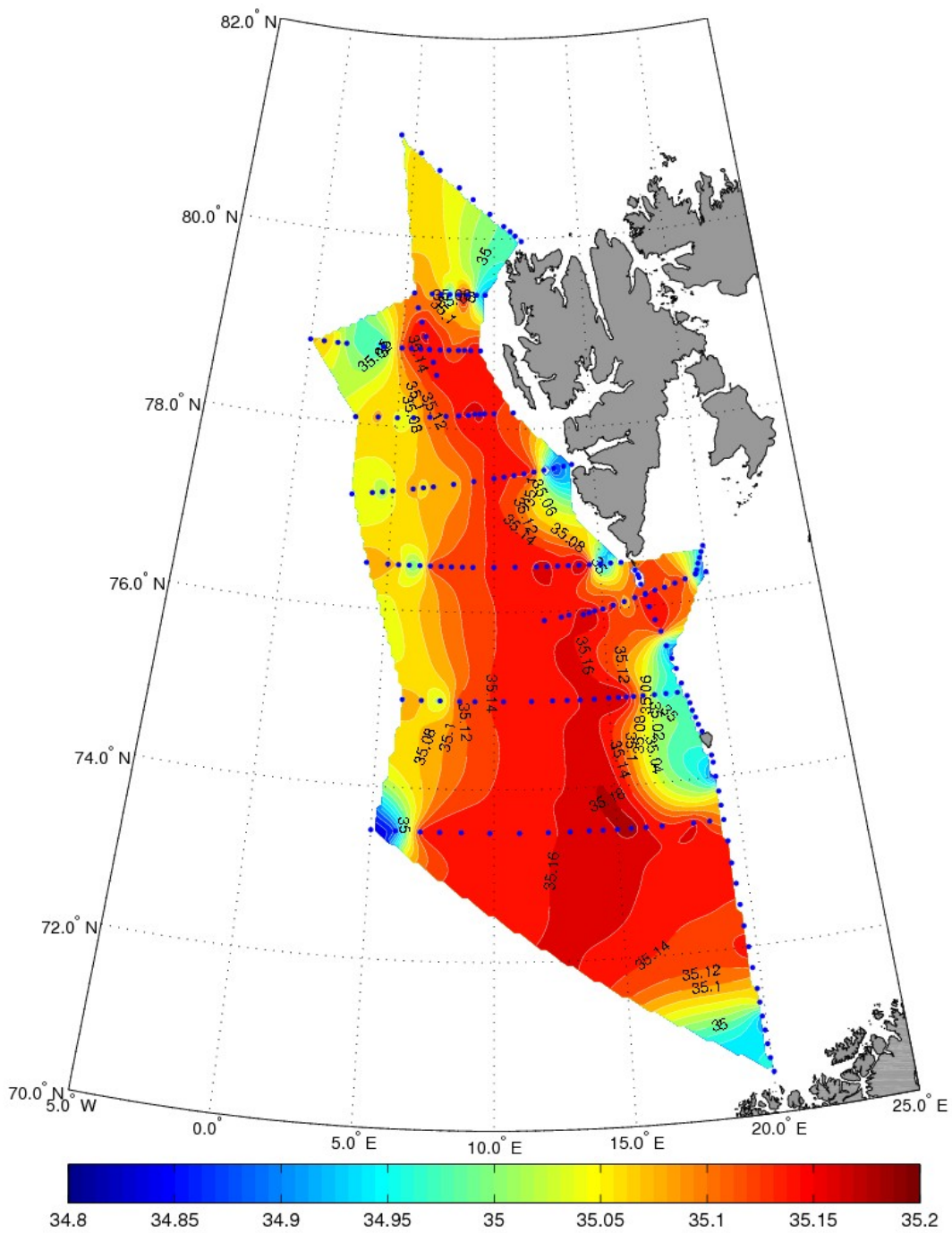


Figure 3: Salinity [psu] distribution at the depth of 100 m in summer 2006.

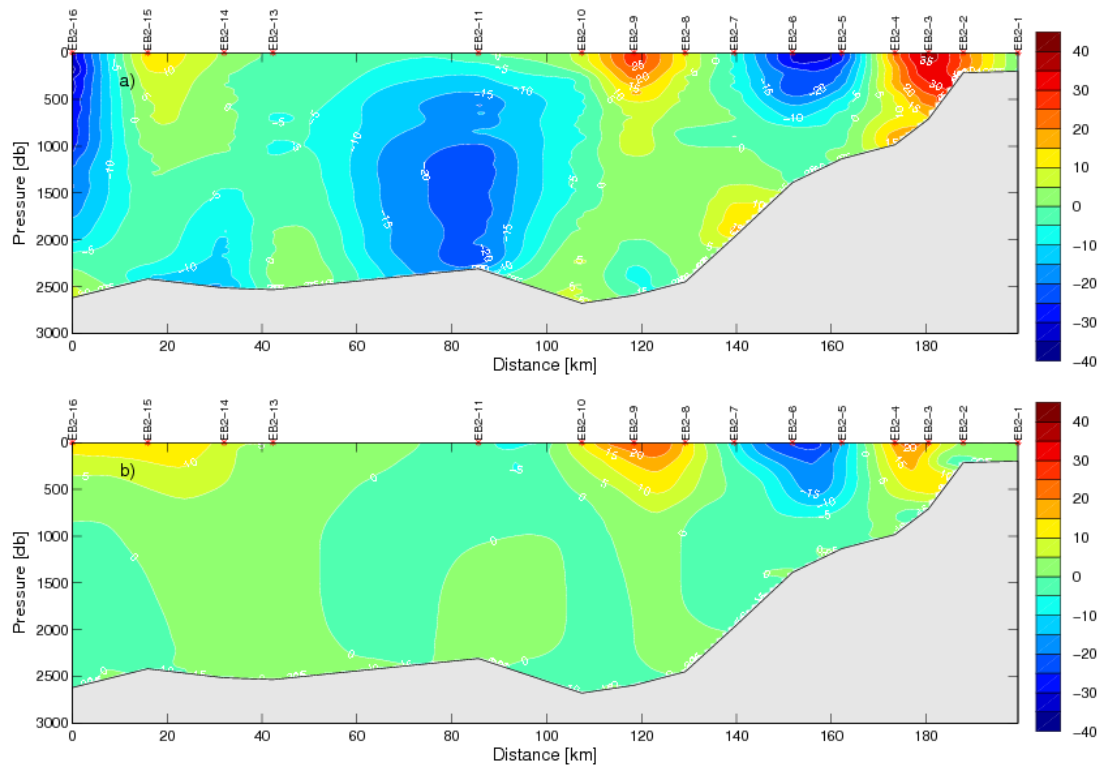


Figure 4: Velocity [cm/s] measured directly by LADCP on the CTD stations (a) and geostrophic velocity calculated between stations (b). Section EB2 along the 78° 50' N. R/V "Oceania", June 2006.

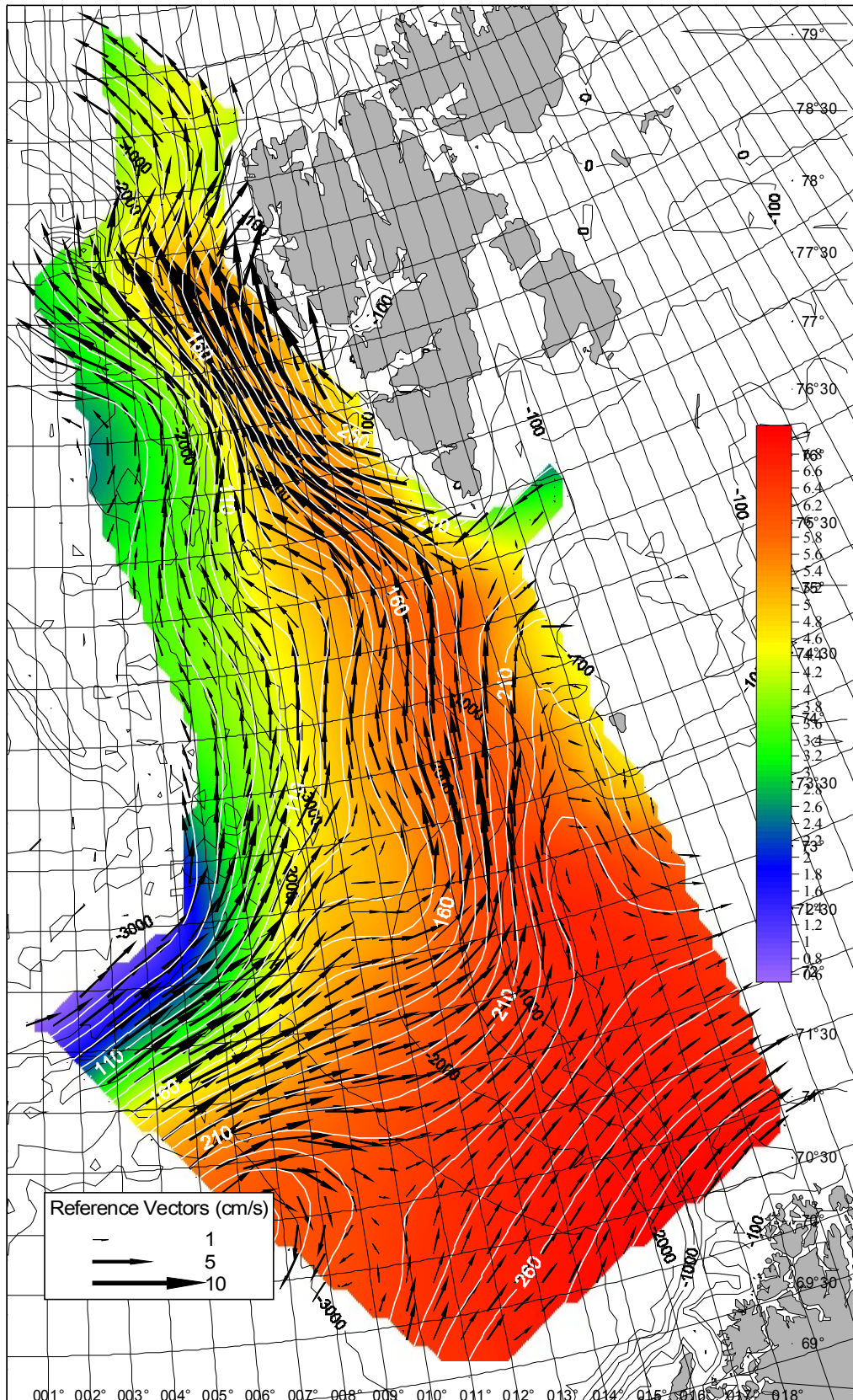


Figure 5: Temperature and baroclinic currents vectors at the depth of 100 m, reference level 1000 m. AW was shifted far away to the north.



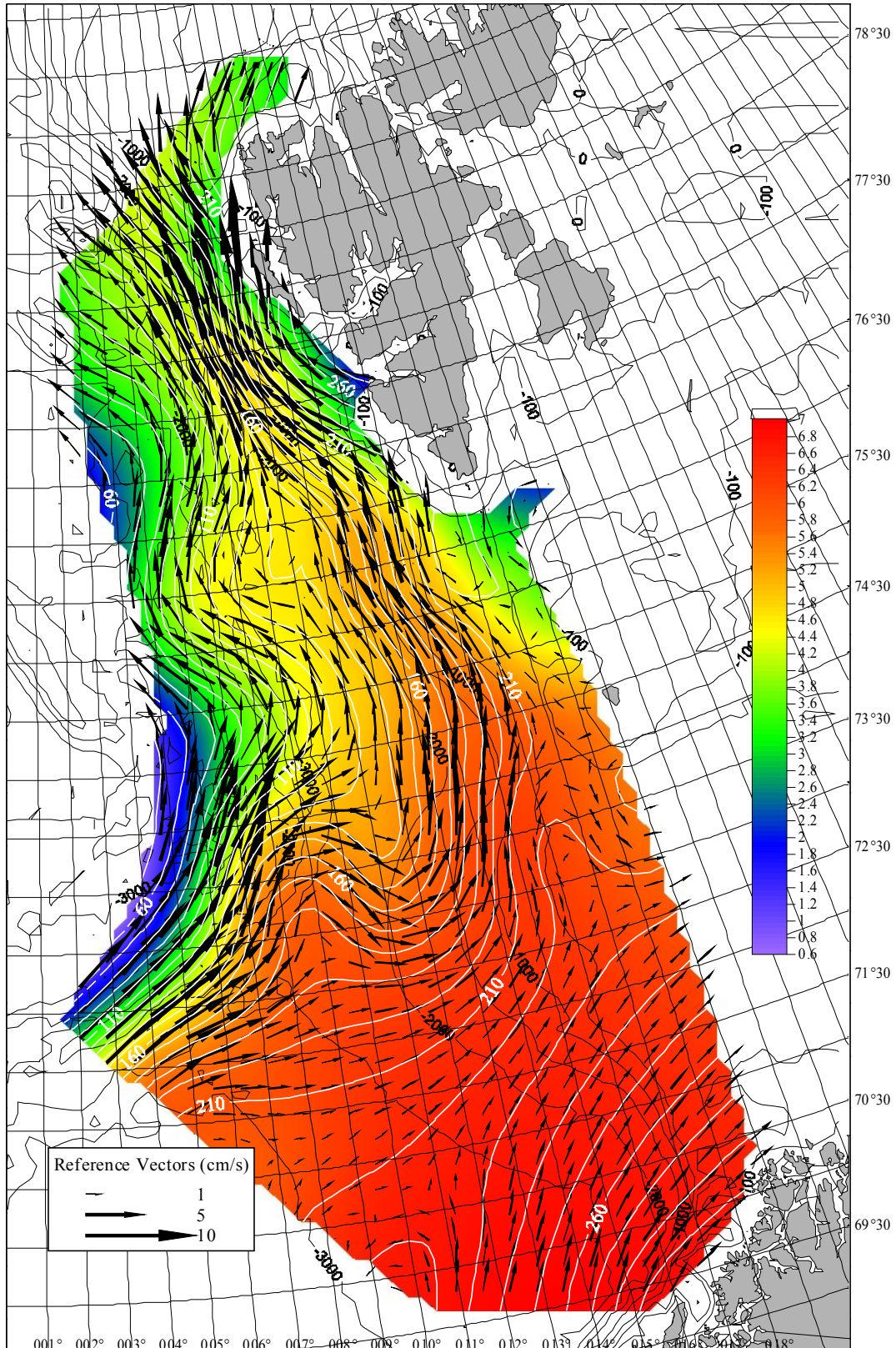


Figure 6: Year 2005. Temperature and baroclinic currents vectors at the depth of 100 m, reference level 1000 m. In comparison to situation in 2006 presented above AW was shifted southward.